USING TECHNOLOGY TO STUDY CELLULAR AND MOLECULAR BIOLOGY		
West Virginia Science Content Standards and Objectives – Grades 9 & 10		
Lesson	**Standard**	**Objective**
2, 3	**SC.9.1.1 SC.10.1.1**	Formulate scientific explanations based on the student's observational and experimental evidence, accounting for variability in experimental results.
2, 3, 4	**SC.9.1.2 SC.10.1.2**	Recognize that science has practical and theoretical limitations.
2, 3	**SC.9.1.3 SC.10.1.3**	Recognize that science is based on a set of observations in a testable framework that demonstrate basic laws that are consistent.
2, 3	**SC.9.1.4 SC.10.1.4**	Conclude that science is a blend of creativity, logic and mathematics.
All lessons	**SC.9.2.1 SC.10.2.1**	Model and exhibit the skills, attitudes and/or values of scientific inquiry (e.g., curiosity, logic, objectivity, openness, skepticism, appreciation, diligence, integrity, ethical practice, fairness, creativity).
3	**SC.9.2.2 SC. 10.2.2**	Demonstrate ethical practices for science (e.g., established research protocol, accurate record keeping, replication of results and peer review).
3	**SC.9.2.3 SC.10.2.3**	Apply scientific approaches to seek solutions for personal and societal issues.
1, 2, 3	**SC.9.2.4 SC.10.2.4**	Properly and safely manipulate equipment, materials, chemicals, organisms and models.
1, 2, 3	**SC.9.2.6 SC.10.2.6**	Use appropriate technology solutions (e.g., computer, CBL, probe interfaces, software) to measure and collect data; interpret data; analyze and/or report data; interact with simulations; conduct research; and to present and communicate conclusions.
1, 2, 3	**SC.9.2.7 SC.10.2.7**	Demonstrate science processes within a problem solving setting (e.g., observing, measuring, calculating, communicating, comparing, ordering, categorizing, classifying, relating, hypothesizing, predicting, inferring, considering alternatives and applying).
1, 2, 3	**SC.9.2.8 SC.10.2.8**	Design, conduct, evaluate and revise experiments (e.g., identify questions and concepts that guide investigations; design investigations; identify independent and dependent variables in experimental investigations; manipulate variables to extend experimental activities; use technology and mathematics to improve investigations and communications; formulate and revise scientific explanations and models using logic and evidence; recognize alternative explanations; communicate and defend a scientific

		argument).
1, 2, 3	**SC.9.3.2 SC.10.3.2**	Apply evidence from models to make predictions about interactions and changes in systems.
3	**SC.10.4.3**	Compare the variations in cells, tissues and organs of different organisms (e.g., endocrine, nervous, digestion and immune systems).
3	**SC.9.4.8**	Identify and compare the structure and function of cell, tissues and systems of different organisms.
All lessons	**SC.9.5.1**	Identify the scientific concepts underlying simple technological innovations**.**
All lessons	**SC.10.5.1**	Investigate and analyze the interdependence of science and technology.
All lessons	**SC.9.5.2**	Cite examples of the interdependence of science and technology (e.g., new technologies have lead to development of new scientific knowledge).
All lessons	**SC.9.5.3**	Apply scientific skills and technological tools to design a solution that addresses a personal or societal need.
All lessons	**SC.9.6.3 SC.10.6.3**	Describe the impact of cultural, technological, and economic influences on the evolving nature of scientific thought and knowledge.
3, 4	**SC.9.6.5 SC.10.6.5**	Engage in decision-making activities and actions to resolve science-technology-society issues.
West Virginia Math Content Standards and Objectives – Algebra I		
Lesson	**Standard**	**Objective**
1	**A1.2.2**	Solve multi-step linear equations in one variable and apply skills toward solving practical problems.
1	**A1.2.4**	Solve literal equations for a given variable and apply the skills toward solving practical problems.
1	**A1.2.17**	Add, subtract, multiply and divide simple rational expressions.
West Virginia Reading and Language Arts Content Standards and Objectives – Grades 9 & 10		
Lesson	**Standard**	**Objective**
All lessons	**RLA.10.1.4**	Employ reading strategies necessary for various reading purposes (e.g., literary experience; information; and task performance).
All lessons	**RLA.9.1.5**	Locate specific information in text (e.g., main and supporting ideas; specific facts; statistics; definition).

All lessons	**RLA.10.1.5**	Continue to use context clues to establish word meaning (e.g., including words with multiple meanings).
All lessons	**RLA.9.1.6**	Expand the use of various strategies to establish word meanings (e.g., context clues; affixes; multiple meanings).
1, 3	**RLA.9.1.7**	Recognize and explain the purpose of illustration within a specific text (e.g., pictures; artwork; graphic organizers such as maps - charts - lists - graphs).
All lessons	**RLA.9.1.11** **RLA.10.1.7**	Form supportable predictions, opinions, inferences and conclusions based upon text and/or implicit ideas.
All lessons	**RLA.9.1.12**	Expand vocabulary through various literary works.
All lessons	**RLA.9.2.1** **RLA.10.2.1**	Address specific writing purposes (e.g., narrative; expository; descriptive; persuasive) by employing writing strategies.
All lessons	**RLA.9.2.6**	Use a clear, logical progression of ideas (e.g., spatial order in a descriptive essay, chronological order in a process essay) to develop a composition that is focused and coherent.
All lessons	**RLA.9.3.1** **RLA.10.3.1**	Understand, communicate and follow complex or intricate directions effectively.
All lessons	**RLA.9.3.2** **RLA.10.3.2**	Review appropriate classroom communication skills (e.g., asking and answering questions to foster comprehension and communication in the appropriate tone and at the appropriate time).
All lessons	**RLA.9.3.4**	Listen to identify the purpose, make predictions, distinguish fact from opinion and construct meaning from discussion, speech or media.
West Virginia Health Content Standards and Objectives – High School		
Lesson	**Standard**	**Objective**
3	**HE.HS.1.4**	Differentiate between the causes of communicable and noncommunicable diseases.
All lessons	**HE.HS.5.3**	Demonstrate a variety of communication skills (e.g., verbal, nonverbal, listening, writing, technology, workplace).